

IMERG-RT Early and Integrated Microwave Imager (IMWI) Surface Flux Product:

View of Hurricanes Irma, Jose, and Katia,
and relevance to CYGNSS

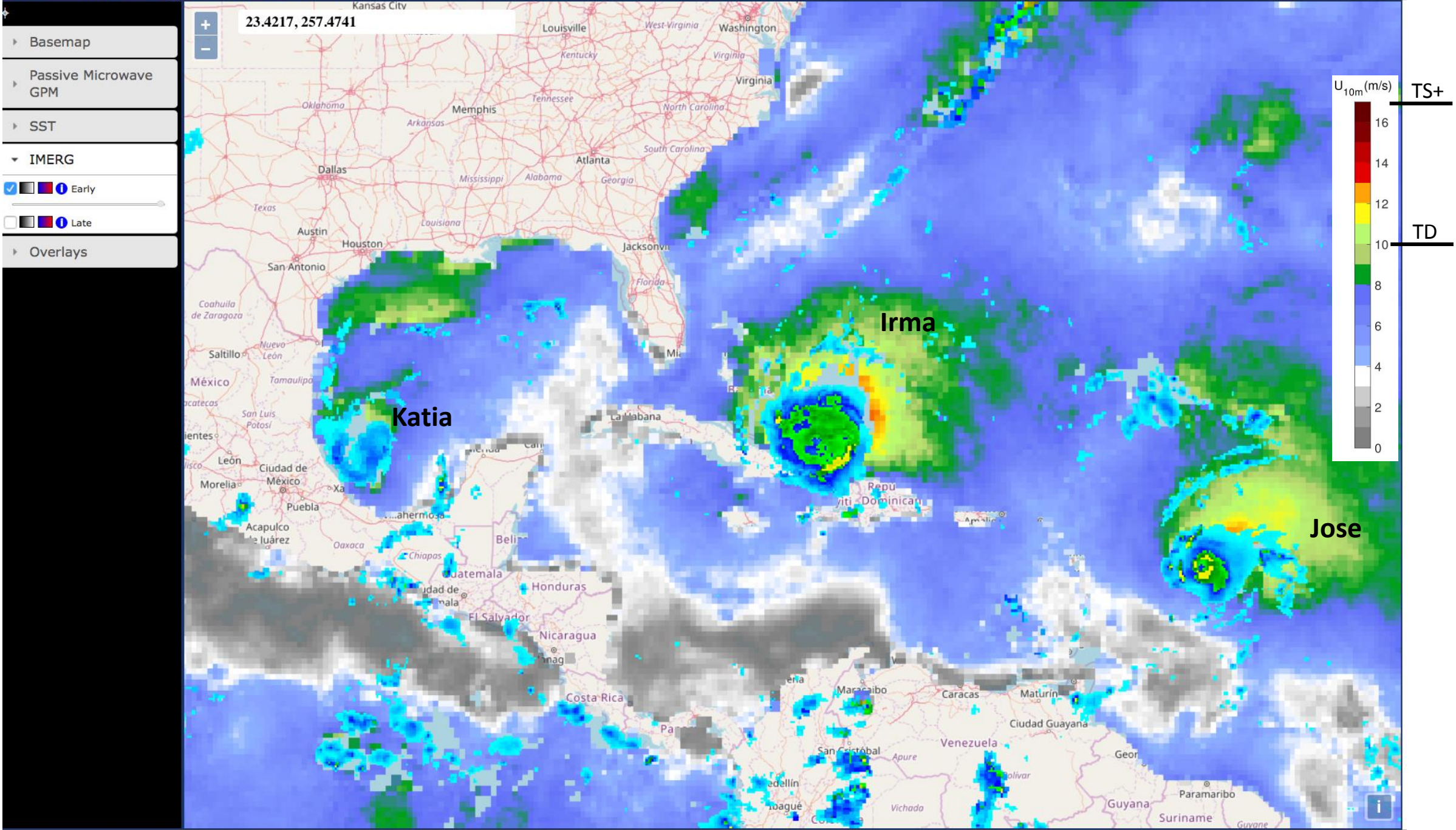
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Overview

- Real-time turbulent latent and sensible heat flux products being produced using NASA GPM L1C Microwave Brightness Temperatures (IMERG)
- Part of South Korea ICE-POP campaign supporting 2018 Winter Olympics
- Inputs: GMI, AMSR-2 from GCOM-W1, and SSMIS from F16 and F18
- Retrievals of near-surface wind speeds, as well as temperature (T_a) and humidity (Q_a)
- Limitations in rainfall





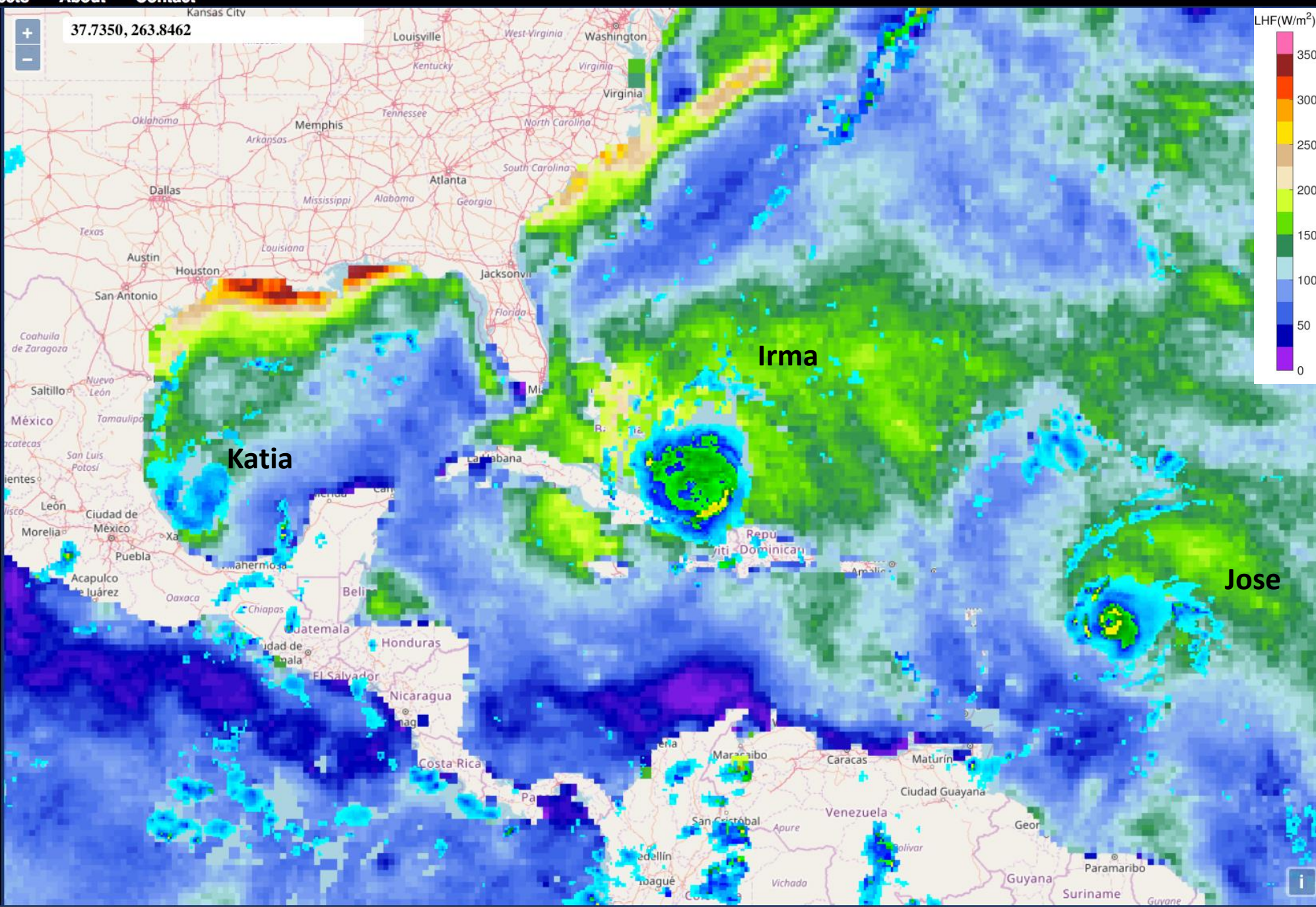
Basemap

Passive Microwave
GPM

SST

IMERG

Overlays



Relevance to CYGNSS

- JPL/UMich producing CYGNSS L2 wind-based flux products; MSFC assisting
- CYGNSS L2 winds can be used to fill in wind speed missing data – CYGNSS not real-time, however
- T_a/Q_a in rainfall? Ideas include using L1C, MERRA-2, and machine-learning-based interpolation to fill in missing data; regime-based classification
- Lessons learned can be applied to CYGNSS flux products